

# 6GH8A

## Medium-Mu Triode— Sharp-Cutoff Pentode

### 9-PIN MINIATURE TYPE

For Multivibrator-Type Horizontal-Deflection Oscillator, AGC Amplifier, and Sync-Separator Applications

#### GENERAL DATA

##### Electrical:

Heater Characteristics and Ratings:

|                        |                  |                    |       |
|------------------------|------------------|--------------------|-------|
| Voltage (AC or DC)     | 6.3 <sup>a</sup> | 6.3 ± 0.6          | volts |
| Current                | 0.450 ± 0.030    | 0.450 <sup>b</sup> | amp   |
| Warm-up time (Average) | 11               | —                  | sec   |

Peak heater-cathode voltage (Each unit):

|                                         |                       |       |
|-----------------------------------------|-----------------------|-------|
| Heater negative with respect to cathode | 200 max.              | volts |
| Heater positive with respect to cathode | 200 <sup>c</sup> max. | volts |

Direct Interelectrode Capacitances:

|                                                                                     | <i>Without<br/>External<br/>Shield</i> | <i>With<br/>External<br/>Shield<sup>d</sup></i> |    |
|-------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------------|----|
| <b>Triode Unit:</b>                                                                 |                                        |                                                 |    |
| Grid to plate                                                                       | 1.7                                    | 1.7                                             | pf |
| Grid to cathode, pentode grid No.3 & pentode cathode & internal shield, and heater  | 3.0                                    | 3.2                                             | pf |
| Plate to cathode, pentode grid No.3 & pentode cathode & internal shield, and heater | 1.4                                    | 1.9                                             | pf |
| Heater to cathode                                                                   | 3.0                                    | 3.0 <sup>e</sup>                                | pf |
| <b>Pentode Unit:</b>                                                                |                                        |                                                 |    |
| Grid No.1 to plate                                                                  | 0.02 max.                              | 0.01 max.                                       | pf |
| Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater           | 5.0                                    | 5.0                                             | pf |
| Plate to cathode & grid No.3 & internal shield, grid No.2, and heater               | 2.6                                    | 3.4                                             | pf |
| Heater to cathode & grid No.3 & internal shield                                     | 3.0                                    | 3.0 <sup>e</sup>                                | pf |

##### Characteristics, Class A<sub>1</sub> Amplifier:

|                            | <i>Triode<br/>Unit</i> | <i>Pentode<br/>Unit</i> |       |
|----------------------------|------------------------|-------------------------|-------|
| Plate Voltage              | 125                    | 125                     | volts |
| Grid-No.2 Voltage          | —                      | 125                     | volts |
| Grid-No.1 Voltage          | —1                     | —1                      | volt  |
| Amplification Factor       | 46                     | —                       |       |
| Plate Resistance (Approx.) | 5400                   | 200000                  | ohms  |
| Transconductance           | 8500                   | 7500                    | μmhos |



RADIO CORPORATION OF AMERICA  
Electron Tube Division  
Harrison, N. J.

DATA 1  
4-63

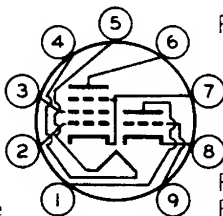
# 6GH8A

|                                                                 |      |    |       |
|-----------------------------------------------------------------|------|----|-------|
| Plate Current . . . . .                                         | 13.5 | 12 | ma    |
| Grid-No.2 Current . . . . .                                     | -    | 4  | ma    |
| Grid-No.1 Voltage (Approx.)<br>for plate $\mu$ a = 10 . . . . . | -8   | -8 | volts |

## Mechanical:

|                                                        |                                          |
|--------------------------------------------------------|------------------------------------------|
| Operating Position. . . . .                            | Any                                      |
| Type of Cathodes. . . . .                              | Coated Unipotential                      |
| Maximum Overall Length. . . . .                        | 2-3/16"                                  |
| Maximum Seated Length . . . . .                        | 1-15/16"                                 |
| Length, Base Seat to Bulb Top (Excluding tip). . . . . | 1-9/16" $\pm$ 3/32"                      |
| Diameter. . . . .                                      | 0.750" to 0.875"                         |
| Dimensional Outline . . . . .                          | See <i>General Section</i>               |
| Bulb. . . . .                                          | T6-1/2                                   |
| Base. . . . .                                          | Small-Button Noval 9-Pin (JEDEC No.E9-1) |
| Basing Designation for BOTTOM VIEW. . . . .            | 9AE                                      |

Pin 1-Triode Plate  
Pin 2-Pentode  
Grid No.1  
Pin 3-Pentode  
Grid No.2  
Pin 4-Heater  
Pin 5-Heater  
Pin 6-Pentode Plate



Pin 7-Pentode  
Cathode,  
Pentode  
Grid No.3,  
Internal  
Shield  
Pin 8-Triode Cathode  
Pin 9-Triode Grid

## HORIZONTAL-DEFLECTION OSCILLATOR

For operation in a 525-line, 30-frame system<sup>f</sup>

### Maximum Ratings, Design-Maximum Values:

|                                           | Triode<br>Unit | Pentode<br>Unit |       |
|-------------------------------------------|----------------|-----------------|-------|
| PLATE VOLTAGE . . . . .                   | 330 max.       | 350 max.        | volts |
| GRID-No.2 (SCREEN-GRID) VOLTAGE . . . . . | -              | 330 max.        | volts |
| GRID-No.1 (CONTROL-GRID) VOLTAGE:         |                |                 |       |
| Positive-bias value . . . . .             | 0 max.         | 0 max.          | volts |
| Peak-negative value . . . . .             | -              | 175 max.        | volts |
| PLATE DISSIPATION . . . . .               | 2.5 max.       | 2.5 max.        | watts |
| GRID-No.2 INPUT . . . . .                 | -              | 0.55 max.       | watts |
| CATHODE CURRENT:                          |                |                 |       |
| Peak. . . . .                             | -              | 300 max.        | ma    |
| Average . . . . .                         | -              | 20 max.         | ma    |

### Maximum Circuit Values (Each Unit):

|                                                                                       |          |         |
|---------------------------------------------------------------------------------------|----------|---------|
| Grid-No.1-Circuit Resistance:<br>For fixed-bias or<br>cathode-bias operation. . . . . | 2.2 max. | megohms |
|---------------------------------------------------------------------------------------|----------|---------|

<sup>a</sup> At heater amperes = 0.450.

<sup>b</sup> At heater volts = 6.3.

<sup>c</sup> The dc component must not exceed 100 volts.

<sup>d</sup> With external shield JEDEC No.315 connected to cathode of unit under test except as noted.

<sup>e</sup> With external shield JEDEC No.315 connected to ground.

<sup>f</sup> As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

RADIO CORPORATION OF AMERICA  
Electron Tube Division

Harrison, N. J.



# 6GH8A

---

## INTERELECTRODE LEAKAGE

Leakage Resistance between Plate of Each  
Unit and All Other Electrodes of both  
units tied together . . . . . 100 min. megohms

This test is performed under the following conditions:  
heater volts = 6.3; and plate 300 volts negative with respect  
to all other electrodes tied together.

Leakage Resistance between Grid No.1  
of Each Unit and All Other Electrodes  
of both units tied together . . . . . 100 min. megohms

This test is performed under the following conditions:  
heater volts = 6.3; and grid 100 volts negative with respect  
to all other electrodes tied together.

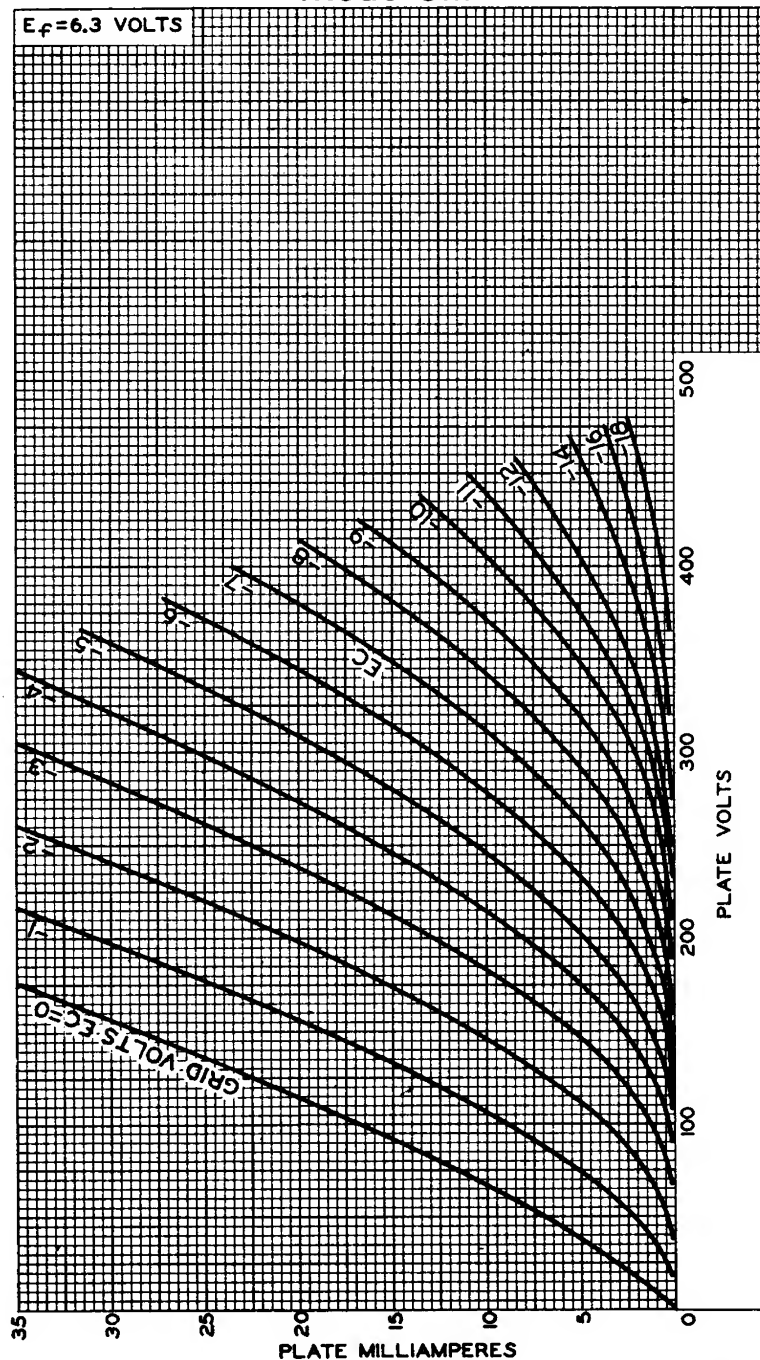


RADIO CORPORATION OF AMERICA  
Electron Tube Division  
Harrison, N. J.

DATA '2  
4-63

# 6GH8A

## AVERAGE PLATE CHARACTERISTICS Triode Unit



92CM-10421RI

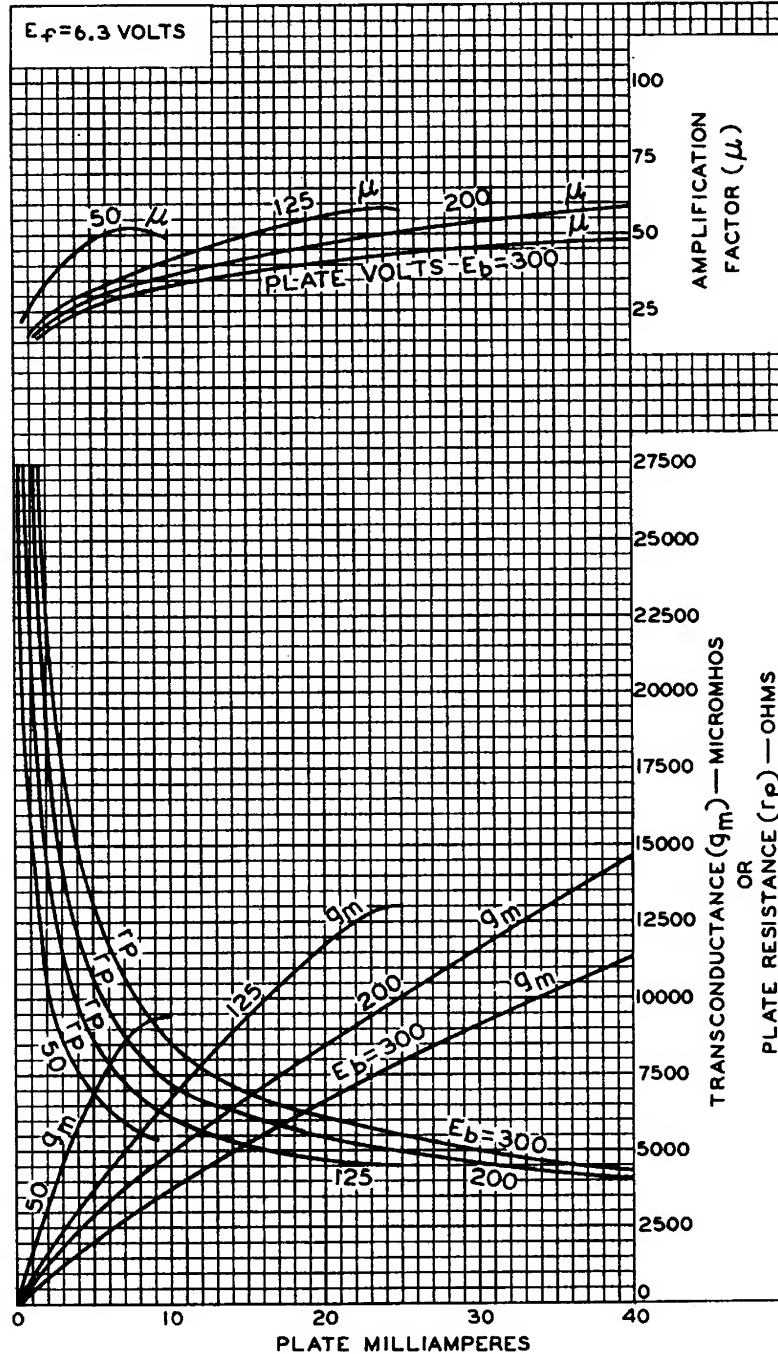
RADIO CORPORATION OF AMERICA  
Electron Tube Division

Harrison, N. J.



# 6GH8A

## AVERAGE CHARACTERISTICS Triode Unit



92CM-10428

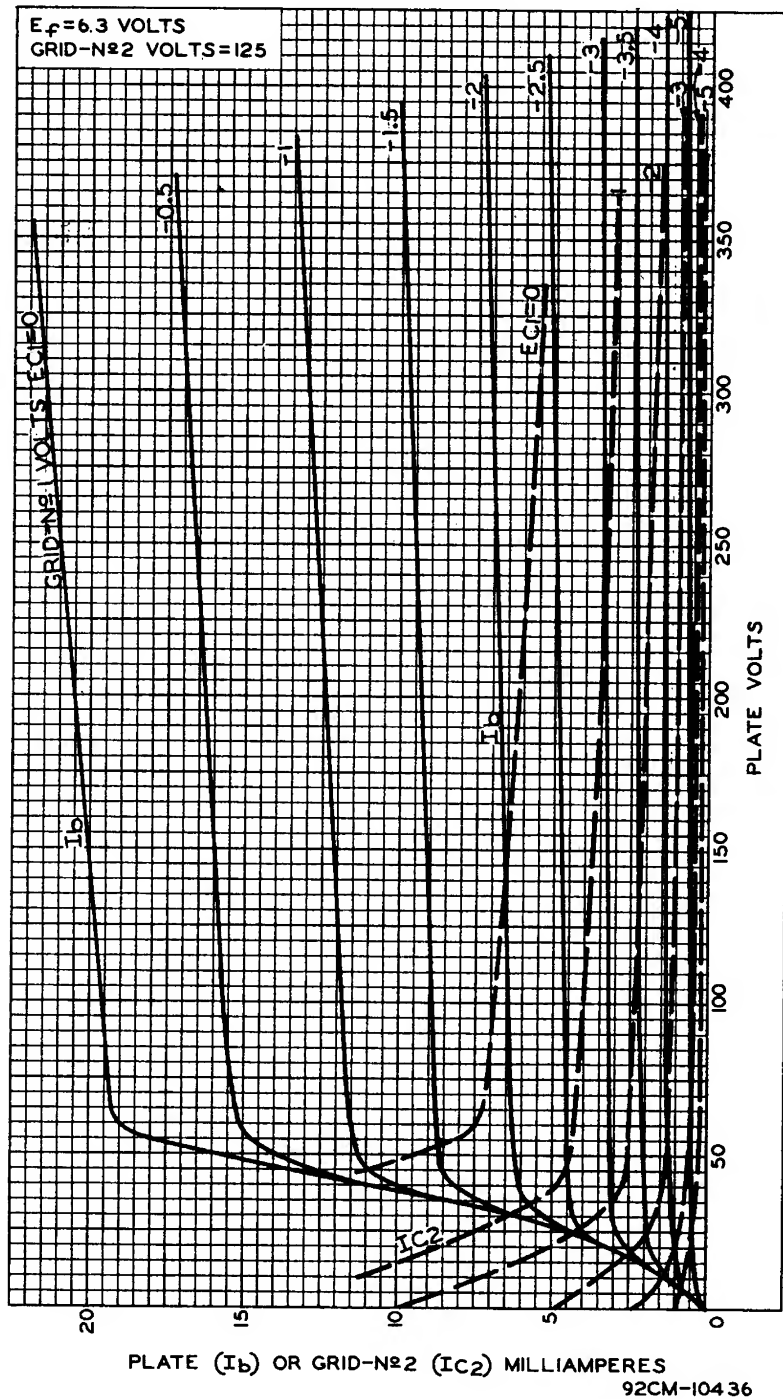


RADIO CORPORATION OF AMERICA  
Electron Tube Division  
Harrison, N. J.

DATA 3  
4-63

# 6GH8A

## AVERAGE CHARACTERISTICS Pentode Unit



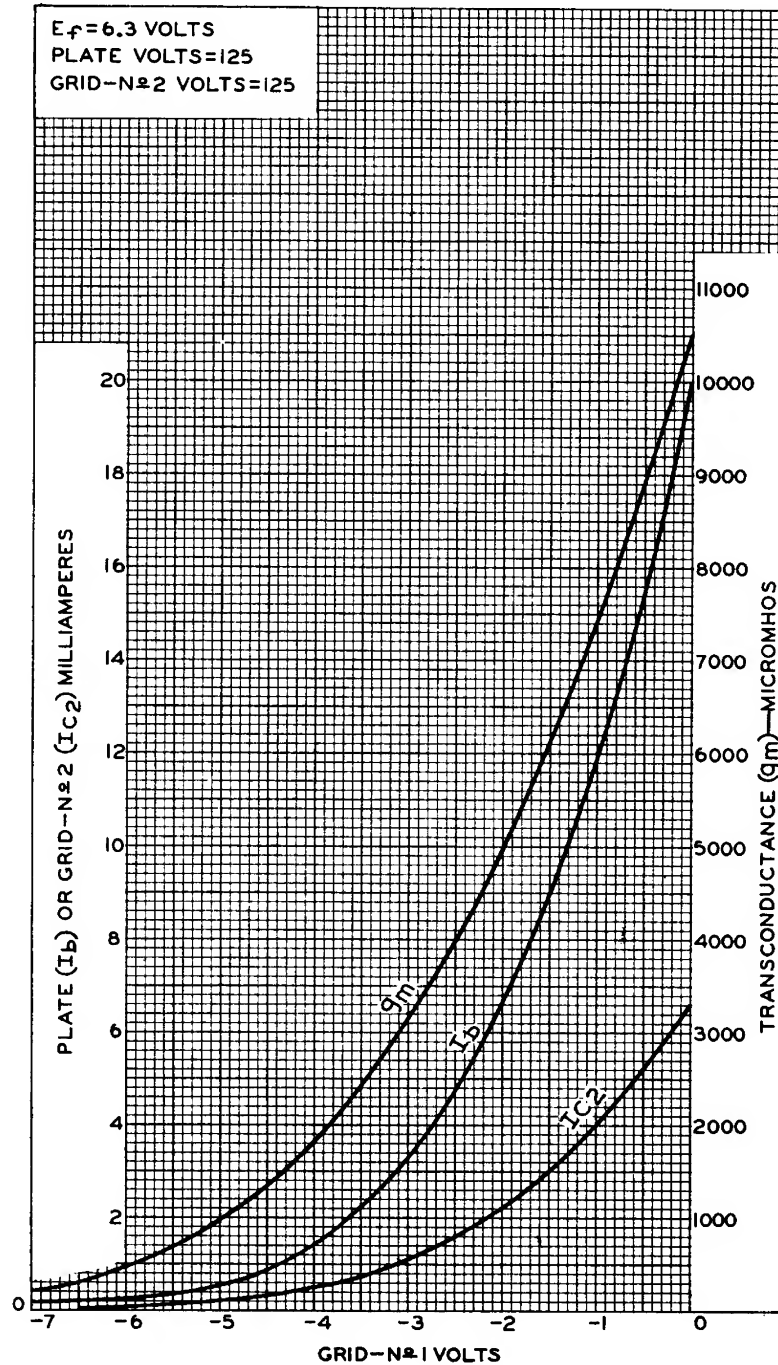
RADIO CORPORATION OF AMERICA  
Electron Tube Division

Harrison, N. J.



# 6GH8A

## AVERAGE CHARACTERISTICS Pentode Unit



92CM-10417



RADIO CORPORATION OF AMERICA  
Electron Tube Division  
Harrison, N. J.

DATA 4  
4-63